

# Razorback Sucker (*Xyrauchen texanus*) Species Status Assessment / 5-yr Review



October 24, 2018

# Species Status Assessment

## U.S. Fish and Wildlife Service's Improved Endangered Species Act Assessment Process

Spend More Time on Science

Useful for Multiple Decisions/Programs

Improve Transparency and Consistency

Distinct Science and Policy

Increase Conservation through Collaboration

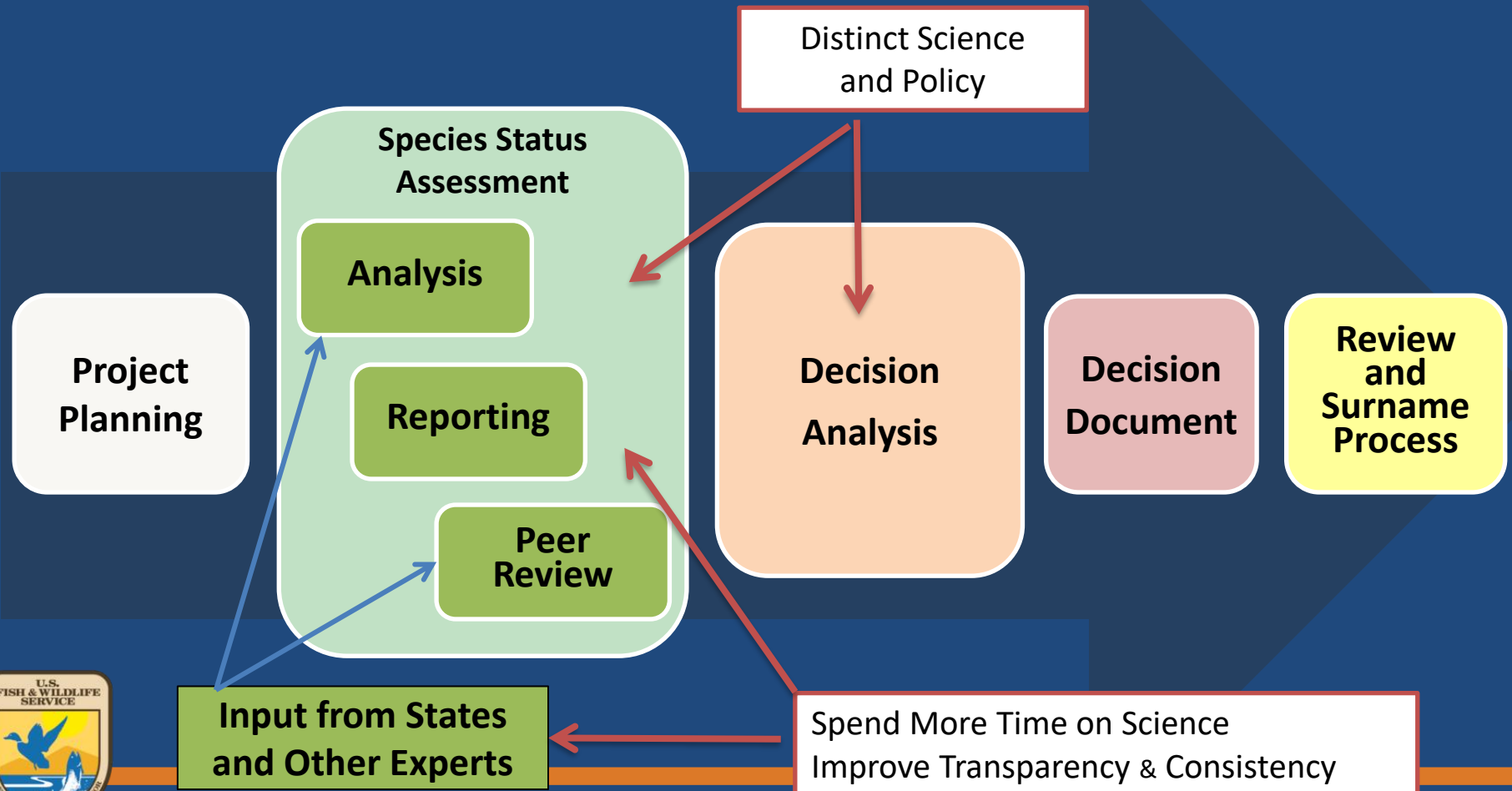
Cope with Synergistic Factors

Improve Forecasting



# Species Status Assessment

## SSA Work Flow



# Species Status Assessment

## SSA has 3 Stages

**SPECIES NEEDS**



Current Availability  
or Condition of those  
Needs

**CURRENT SPECIES'  
CONDITION**



Future Availability  
or Condition of those  
Needs

**FUTURE SPECIES' CONDITION**



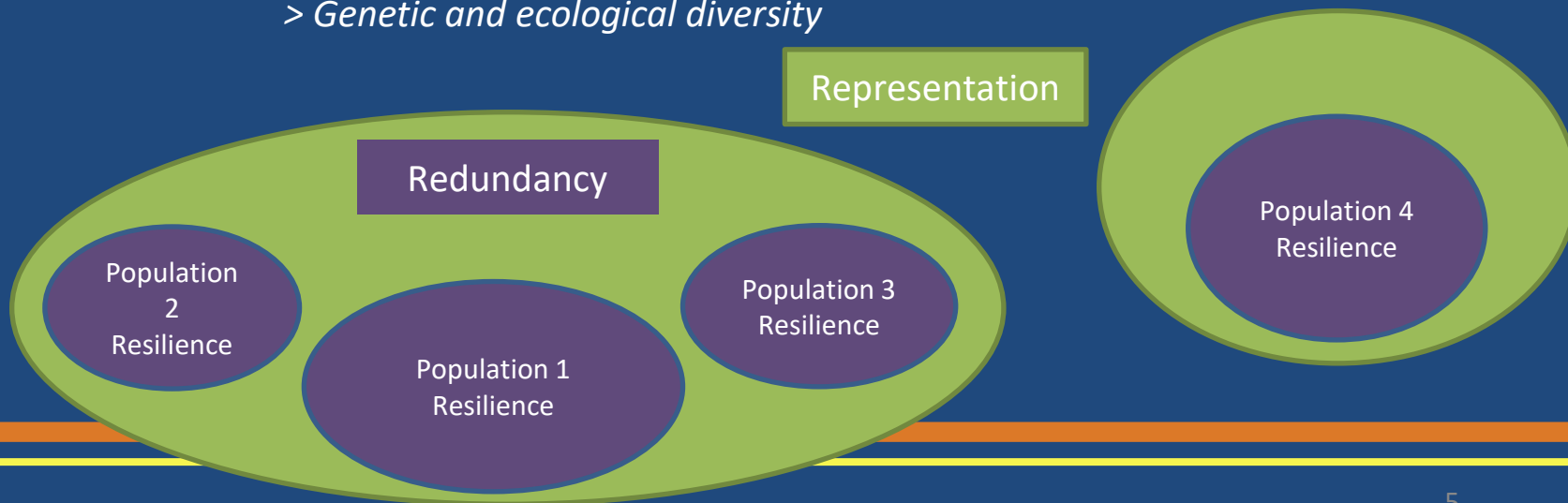
# Species Status Assessment

**Viability** is the ability of a species to sustain populations in the wild beyond a biologically meaningful time frame

Resiliency – the ability of the populations to withstand stochasticity  
> *Population health, abundance, growth rate, etc.*

Redundancy – the ability of the species to withstand catastrophic events  
> *Number and distribution of populations*

Representation – the ability of the species to adapt to changing environmental conditions  
> *Genetic and ecological diversity*



# Involvement

- Lead – Upper Colorado River Endangered Fish Recovery Program
  - Julie Stahli
  - Kevin McAbee
  - Tom Chart
- Writing provided by BIO-WEST
  - Brandon Albrecht
  - Ron Kegerries
  - Sean Keenan Harrison Mohn
  - Ron Rogers
- Science Team for Scenario Development
  - Paul Badame – State of Utah
  - Shane Capron - WAPA
  - Pete Cavalli – State of Wyoming
  - Harry Crockett – State of Colorado
  - Scott Durst – San Juan Program
  - Mark Grover – State of Arizona
  - Jessica Gwinn – R2 Fisheries
  - Mark McKinstry – USBR
  - Dale Ryden – R6 Fisheries
  - Brandon Senger – State of Nevada
  - David Speas – USBR
  - Melissa Trammell – NPS
  - David Vigil – State of California
  - James Stolberg – LCR MSCP
  - Matt Zeigler – State of New Mexico
  - Tom Chart – Upper Colorado Program



# Involvement

- Peer Review
  - Koreen Zelasko - CSU
  - Summer Burdick - USGS
  - Robert Schelly - NPS
- Widely distributed for partner review
  - Biology Committees for the Upper Colorado and San Juan Programs including Tribal Partners
  - Representatives from lower basin programs as identified by R2 Fisheries
- Partner Review
  - State of Colorado
  - State of Arizona
  - State of New Mexico
  - Brian Kesner
  - Paul Marsh
  - Chuck Minckley
  - Tom Wesche
  - Dave Speas
  - R2 Fisheries
  - Tom Dowling
  - Bill Stewart
  - San Juan Program
  - Tom Pitts
  - Scott Vanderkooi

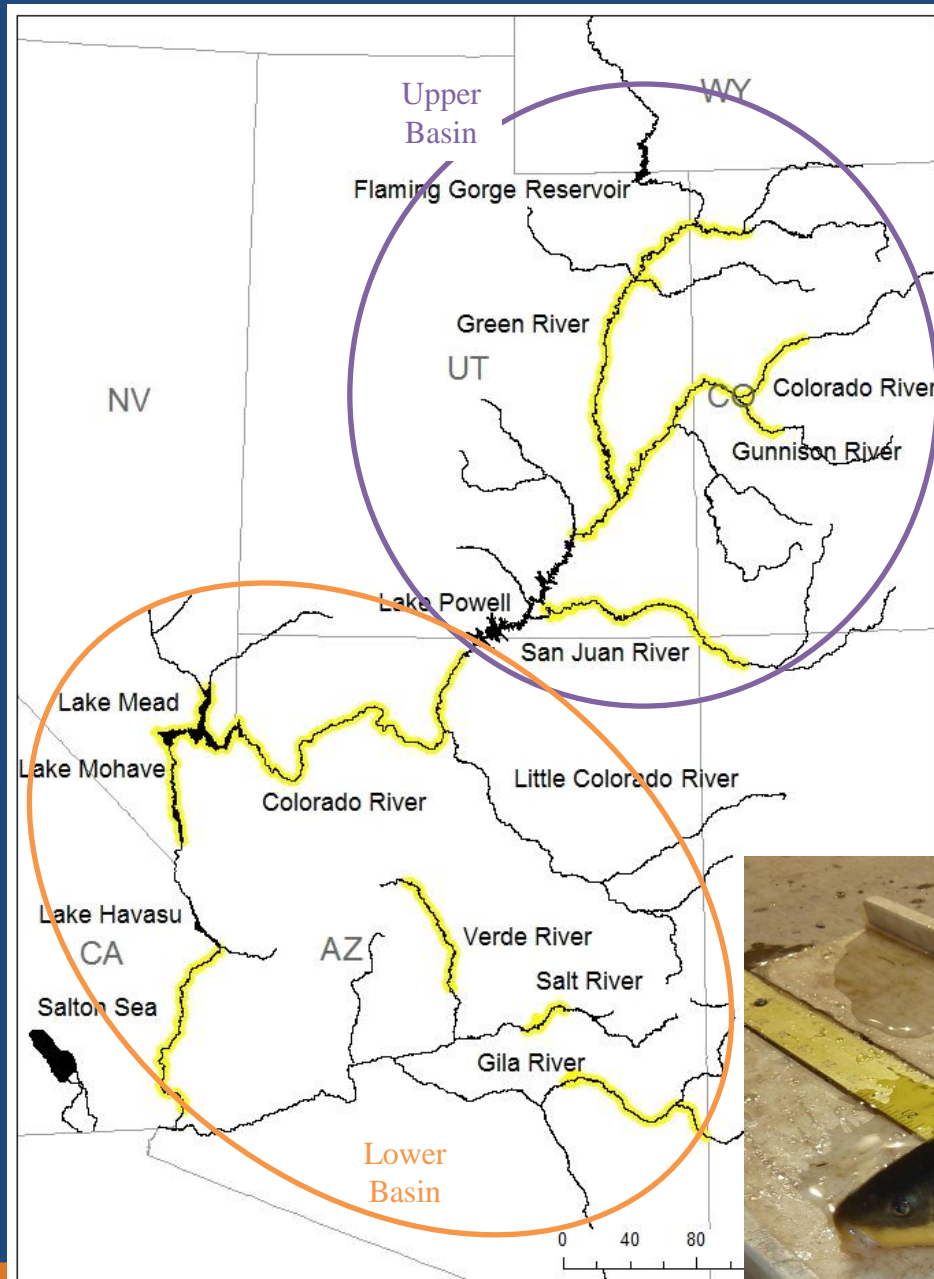


# Chapter 2 – Species Overview

## Listing and Regulatory History

- Proposed listing – 1978
- Withdrew proposal – 1980
- Petitioned for listing – 1989
- Listed in 1991
- Critical habitat established – 1994





# Chapter 4 – Risks/Stressors and Conservation Actions

## Risks/Stressors

- Nonnative predation
- Habitat – flow regime
- Nonnative competition
- Nonnative/Invasive effects on habitat
- Water Temperature
- Climate Change
- Land Use
- Inbreeding (reductions in diversity)
- Heavy metals
- Hybridization
- Parasites and diseases
- Contaminant spills
- Runoff pollution
- Overutilization

## Conservation Actions

- Water management
- Recovery program funding
- Augmentation programs
- Nonnative removal
- Research and Monitoring

***Management-based species***



# Recovery & Conservation Programs

## Upper Colorado River



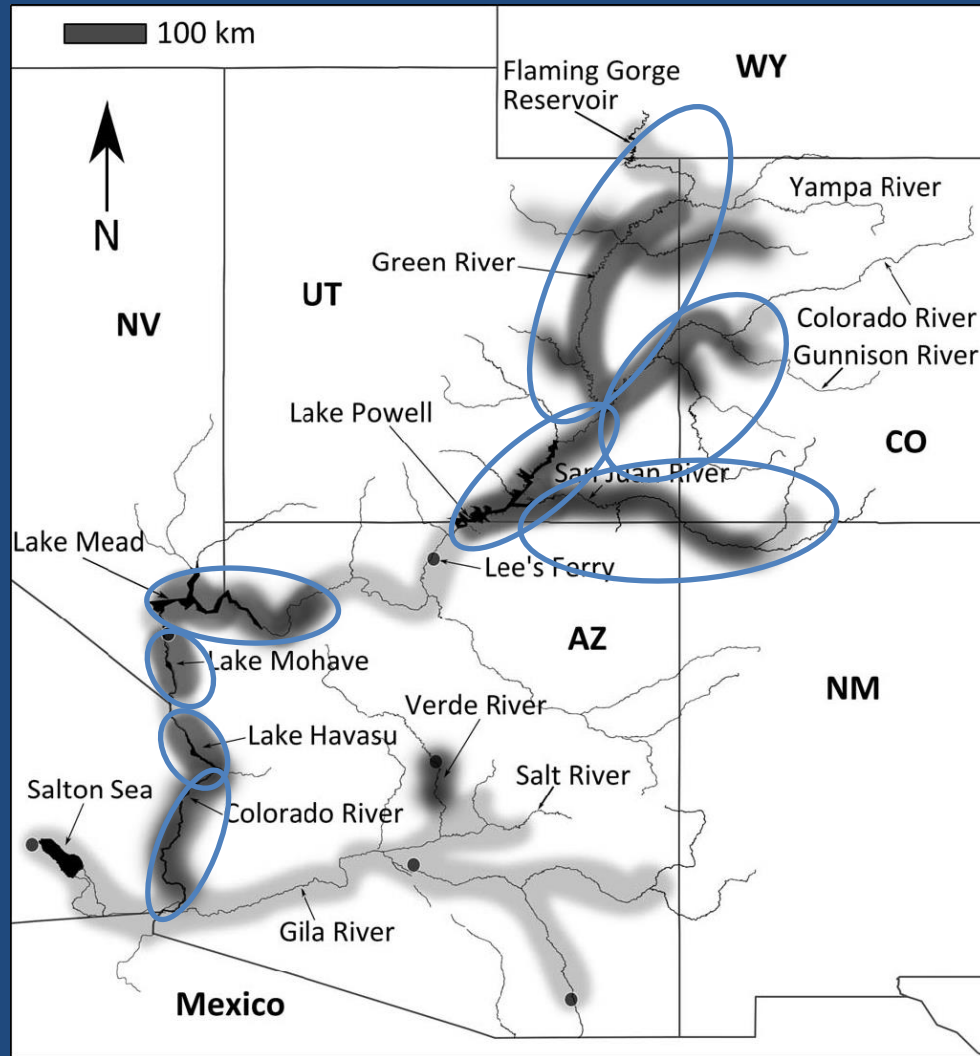
***Glen Canyon Dam Adaptive  
Management Program***



## Endangered Fish Recovery Program



# Chapter 5 – Current Condition



# Chapter 5 – Current Condition

	Physical Needs					
	Complex Habitat		Adequate food	Water Quality /Temperature	Variable flow (lotic only)	Range & Connect- ivity
	Habitat	Nonnative presence in habitat				
High						
Medium						
Low						
Extirpated						
	Demographic Needs					
	Adult population size (wild + stocked fish)	Spawning and Larval Presence	Recruitment	Dependence on Stocking	Genetic Integrity	Population Stability (wild recruited adults)



# Chapter 5 – Current Condition

Population	Physical Needs					
	Complex Habitat		Water Quality/Temp	Variable flow (lotic only)	Adequate Food	Range & Connectivity
	Habitat	Nonnative presence in habitat				
Green River Subbasin						
Colorado River Subbasin						
San Juan River Subbasin						
Lake Powell						
Lake Mead						
Grand Canyon						
Lake Mohave						
Lake Havasu						
Colorado Mainstem Below Parker Dam						

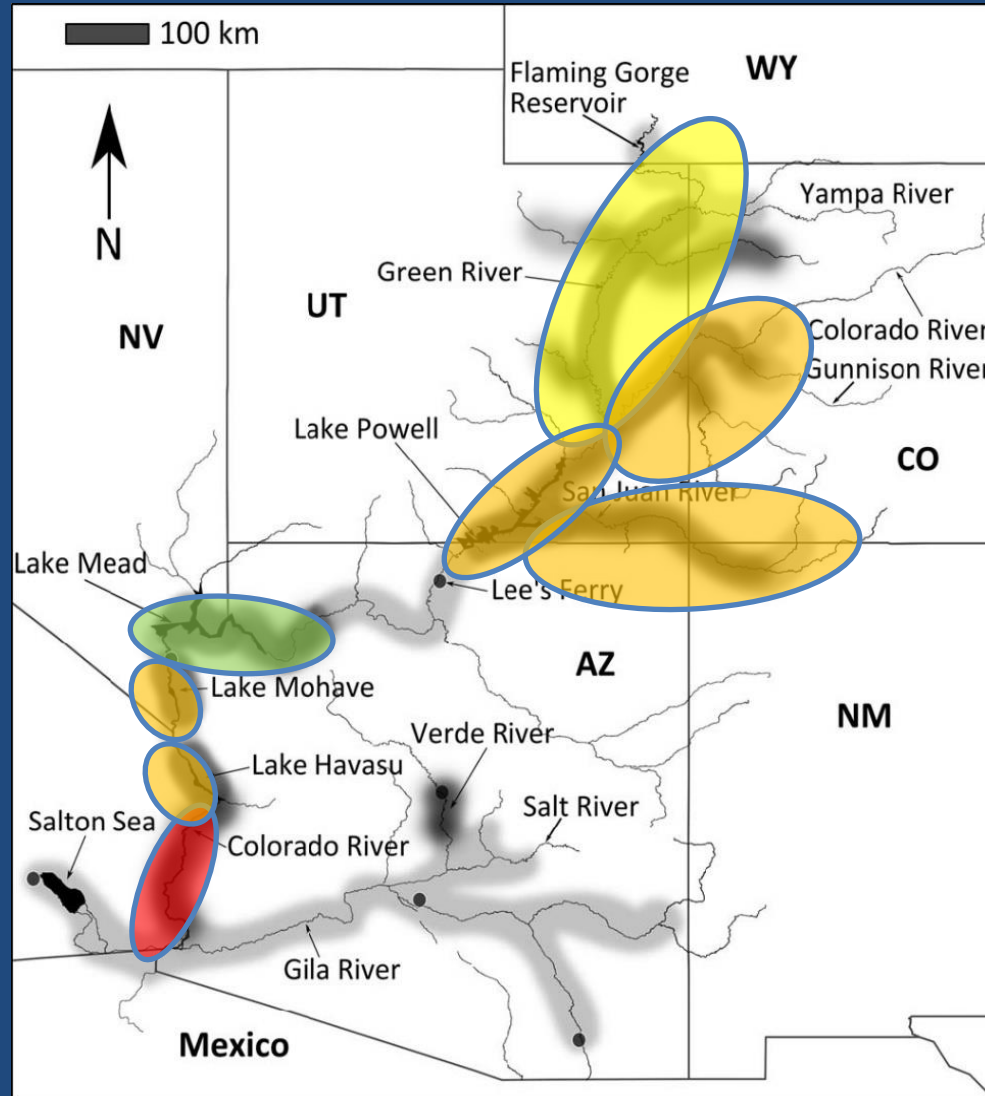


# Chapter 5 – Current Condition

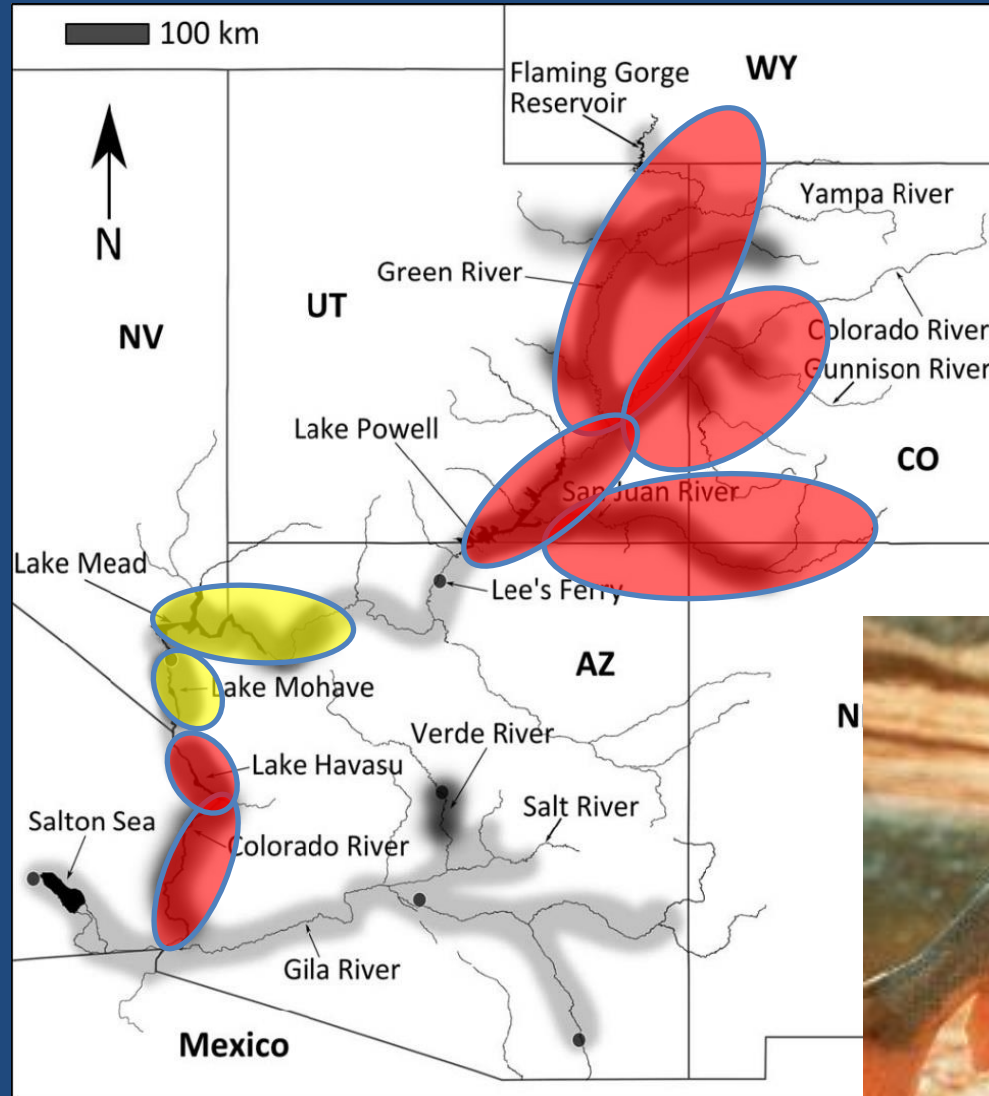
Population	Demographics					
	Adult population	Spawning and larval Presence	Recruitment	Dependence on Stocking	Genetic integrity	Population Stability
<b>Green River Subbasin</b>						
<b>Colorado River Subbasin</b>						
<b>San Juan River Subbasin</b>						
<b>Lake Powell</b>						
<b>Lake Mead (and Grand Canyon)</b>						
<b>Lake Mohave</b>						
<b>Lake Havasu</b>						
<b>Colorado Mainstem Below Parker Dam</b>						



# Chapter 5 – Current Condition



# Historic Condition



# Chapter 5 – Current Condition

- Distribution
- Abundance
- Population Stability
- Risks/Stressors



- Resiliency, redundancy, representation



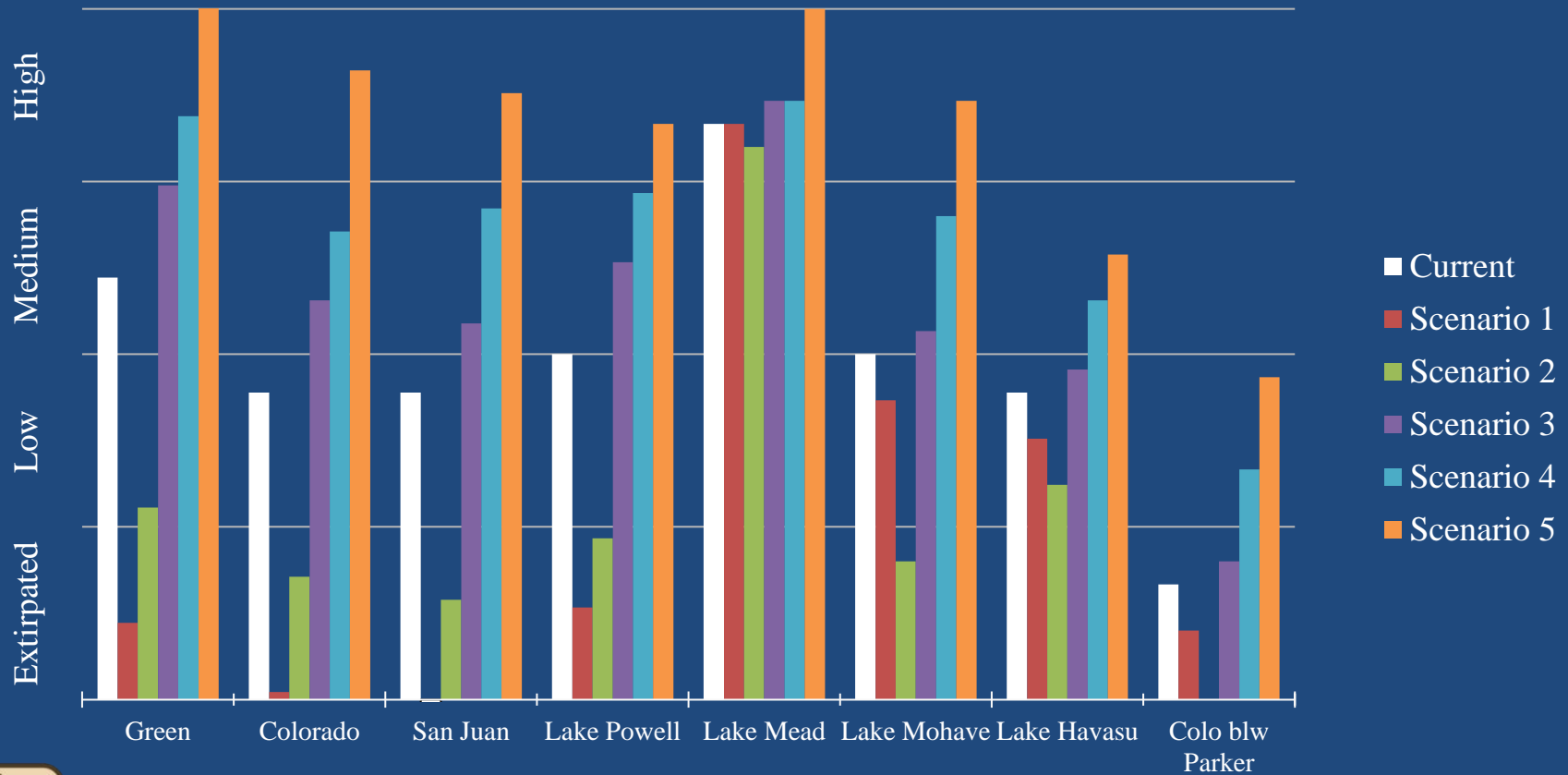
# Chapter 6 – Future Condition

- Scenario 1 – dramatic reduction in recovery/conservation actions
- Scenario 2 – constant level of effort, lower effectiveness of stocking success
- Scenario 3 – status quo (continued level of effort and effectiveness)
- Scenario 4 – continued effort leading to increased success (supports recruitment)
- Scenario 5 – continued effort with more effective techniques

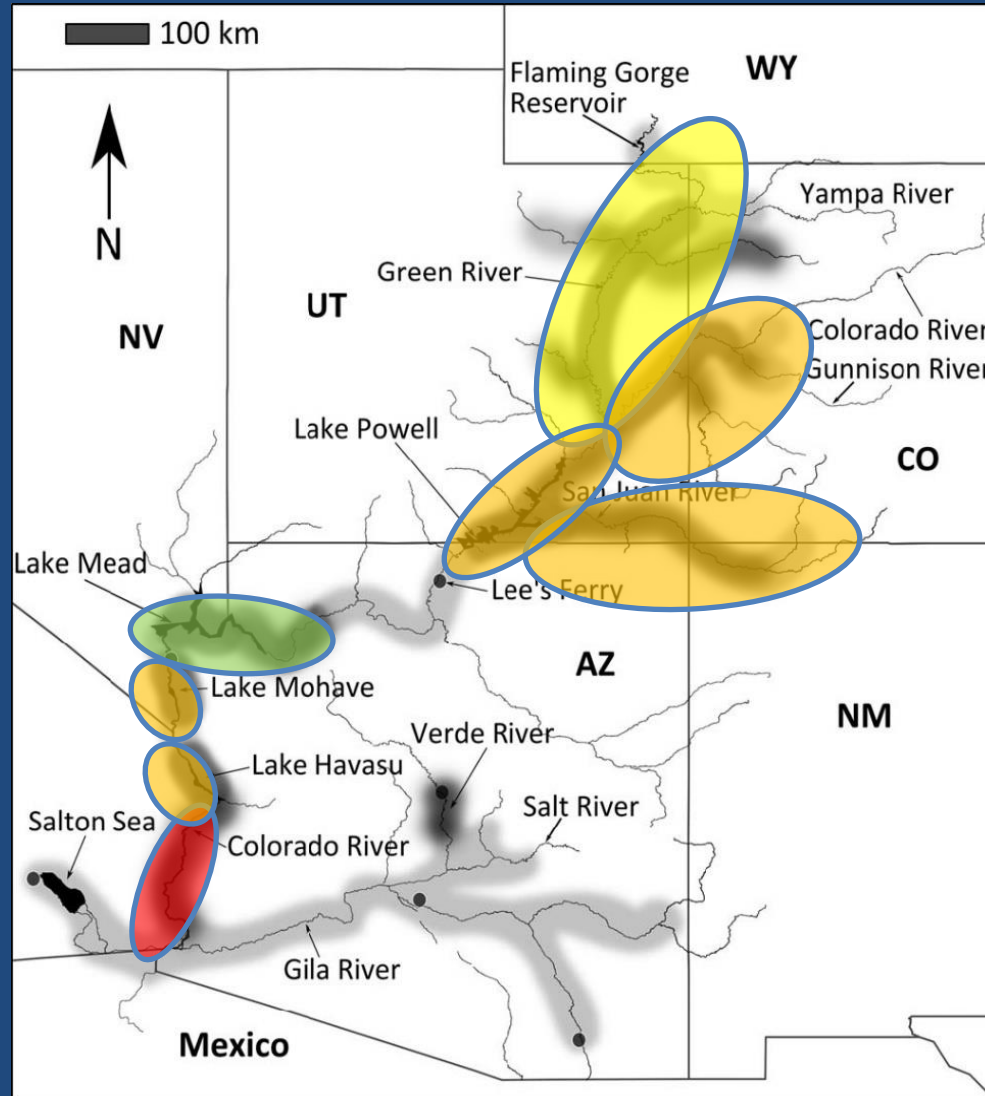


# Chapter 6 – Future Condition

## Futures by Population - Demographic Criteria Only

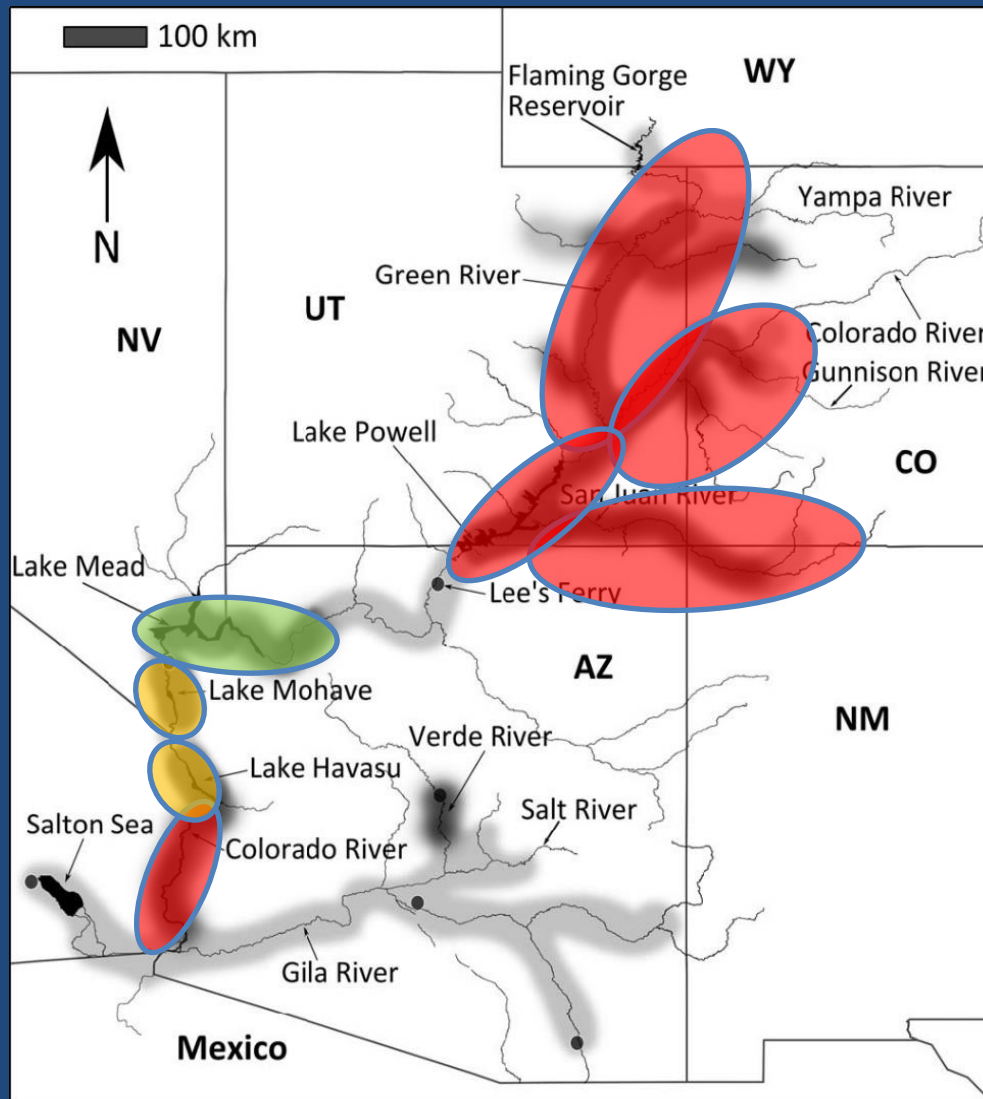


# Chapter 5 – Current Condition



# Scenario 1

Dramatic  
reduction in  
recovery /  
conservation  
actions

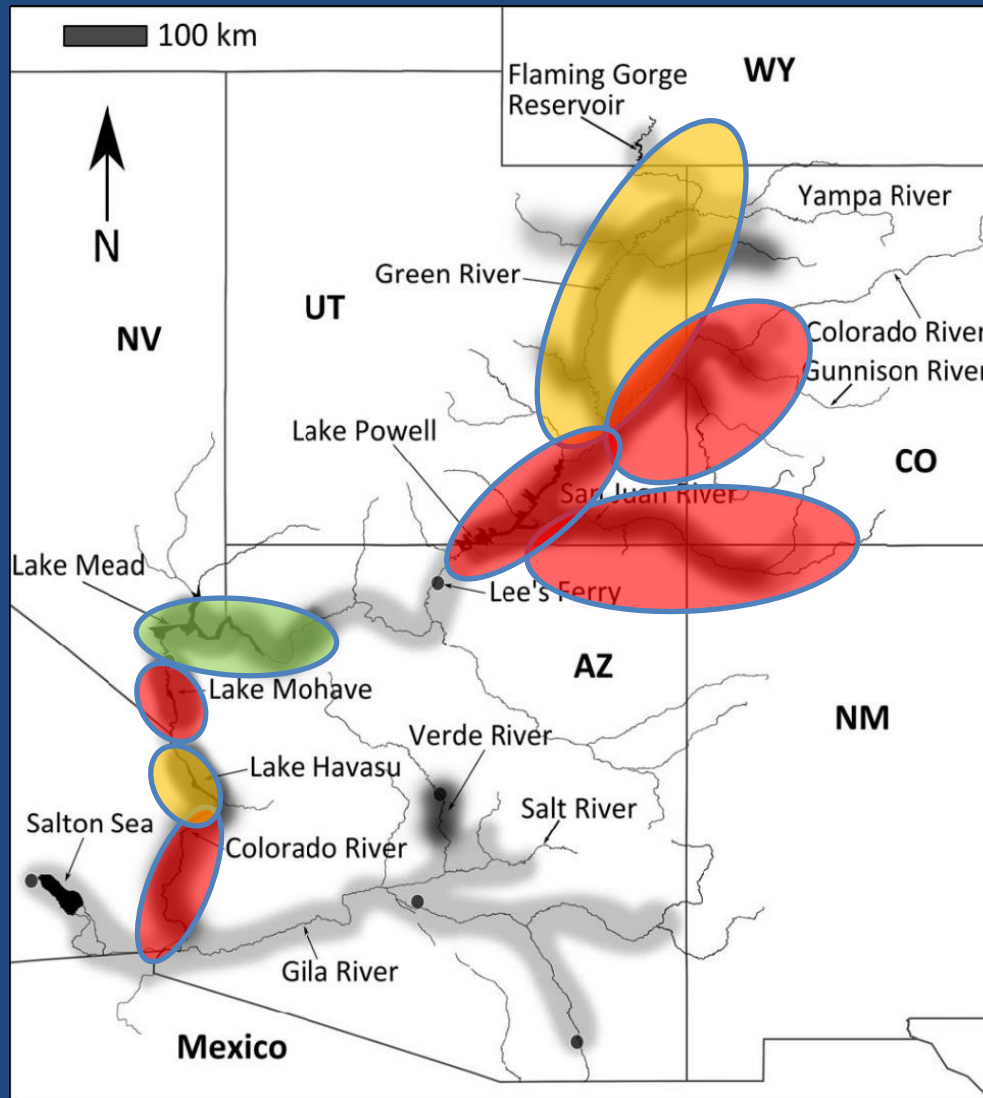


Rated unlikely  
in the 30-year  
period, but  
about as likely  
as not over  
100 years.



# Scenario 2

Constant  
level of  
effort, lower  
effectiveness  
of stocking  
success

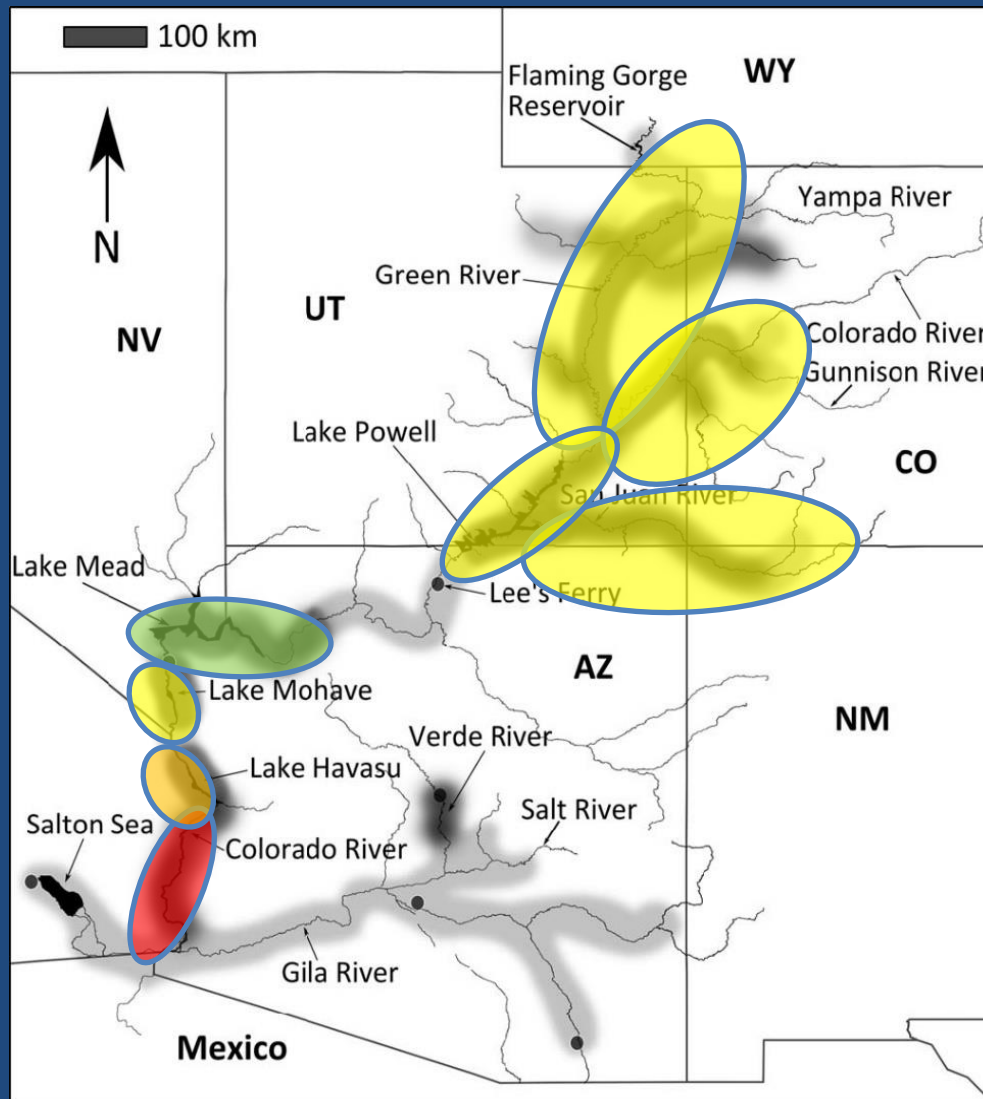


Rated about as  
likely as not in  
the 30-year  
period, and  
likely over 100  
years.



# Scenario 3

Status quo  
(continued  
level of effort  
and  
effectiveness)

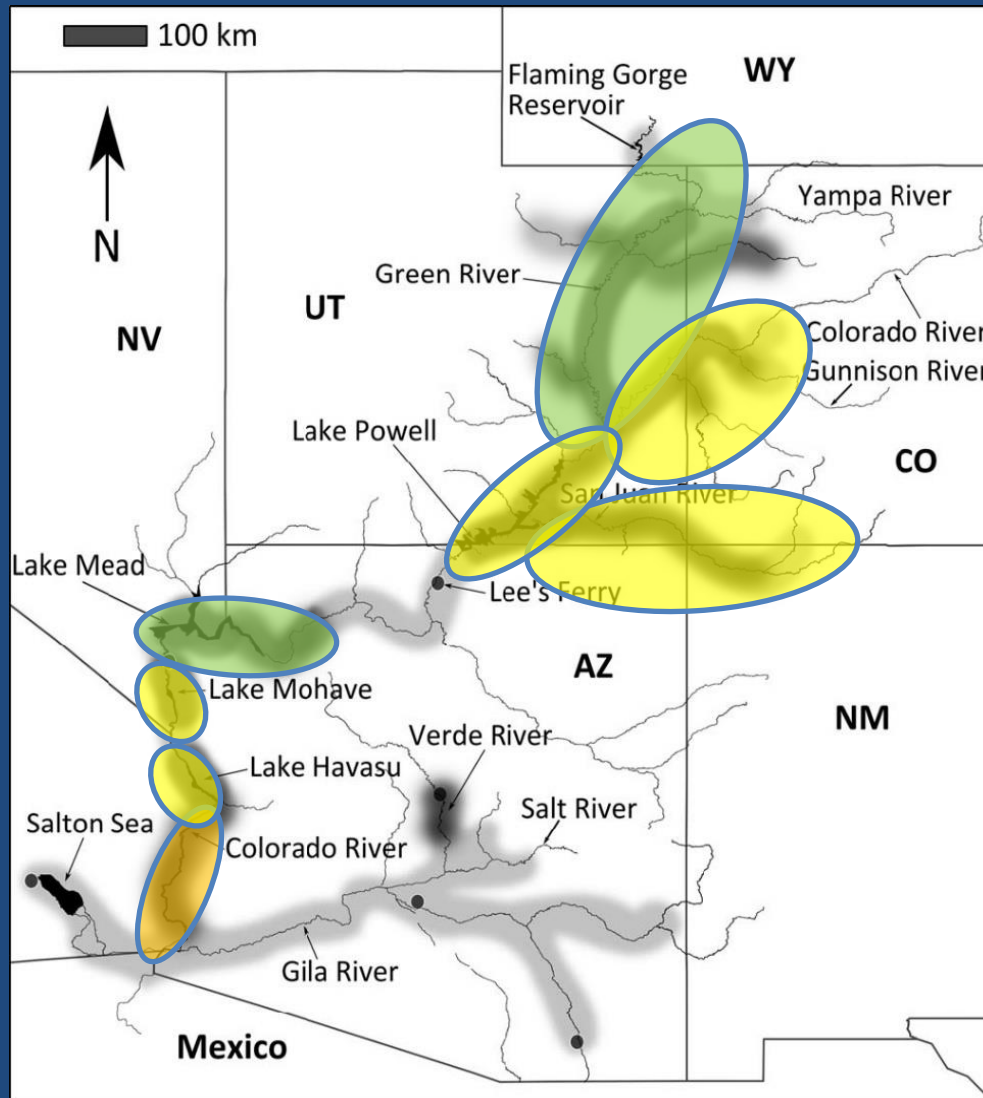


Rated very  
likely in the  
30-year  
period, and  
likely over 100  
years.



# Scenario 4

Continued effort leading to increased success (supports recruitment)

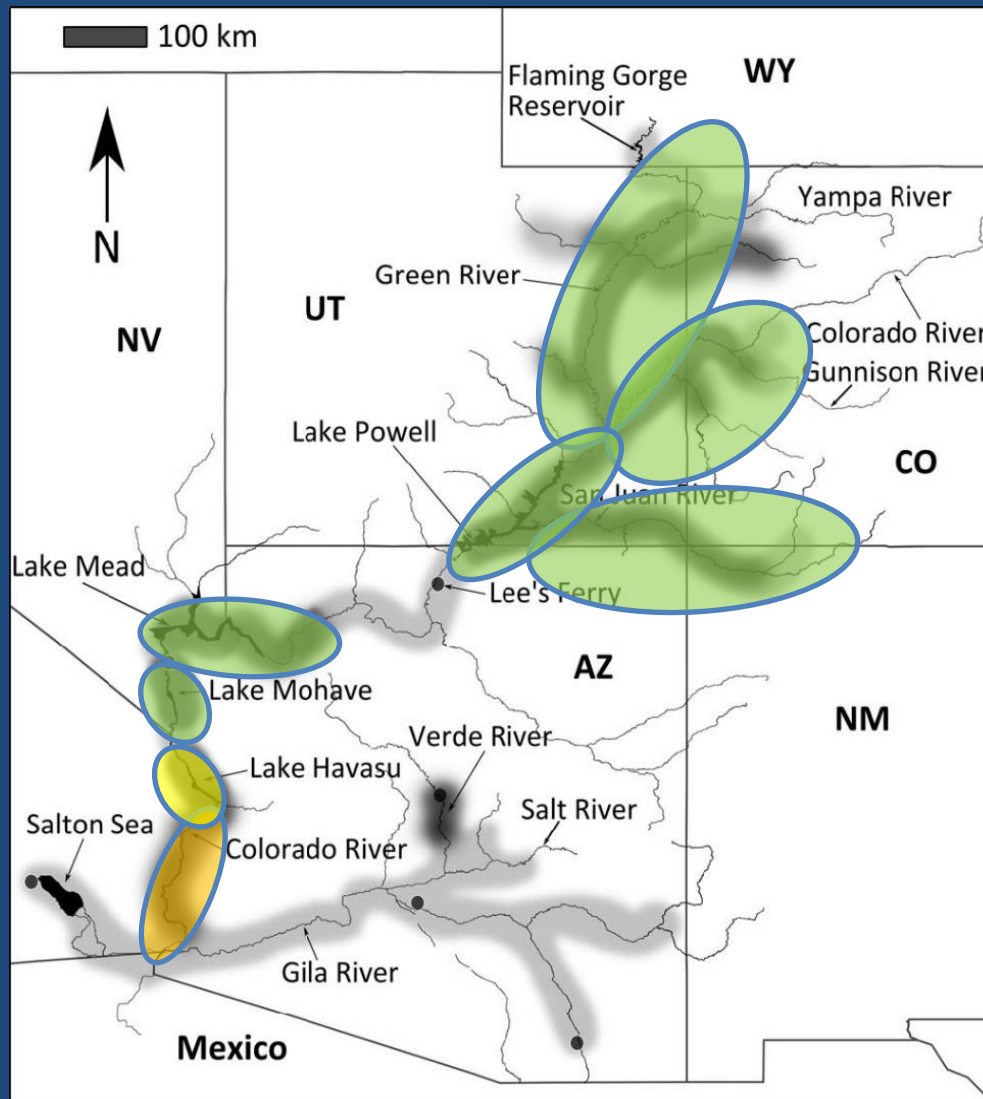


Rated unlikely in the 30-year and 100-year periods.



# Scenario 5

Continued effort with more effective techniques



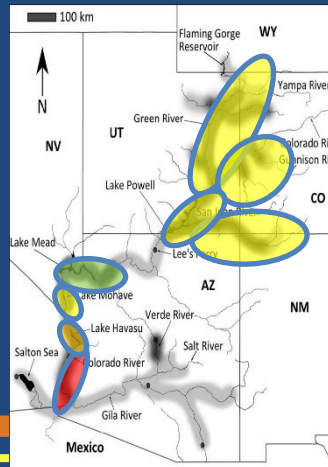
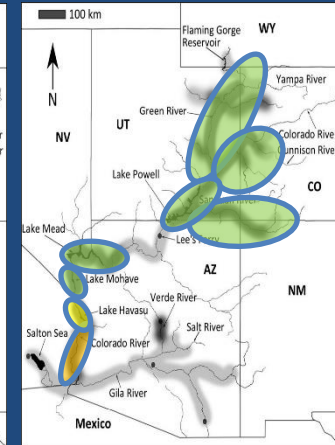
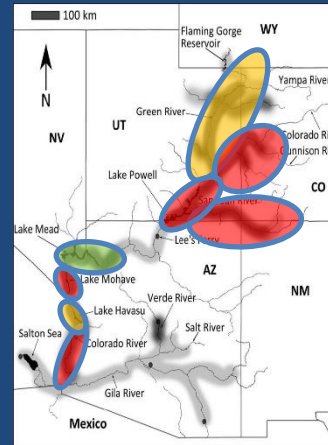
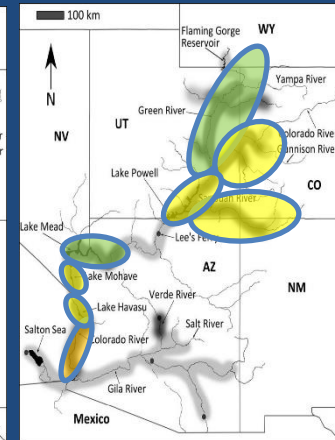
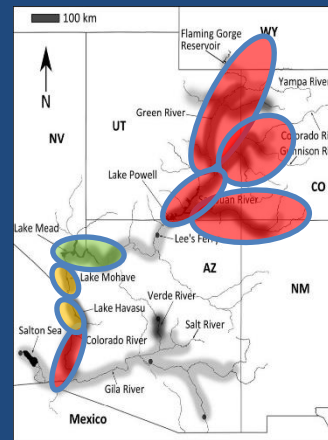
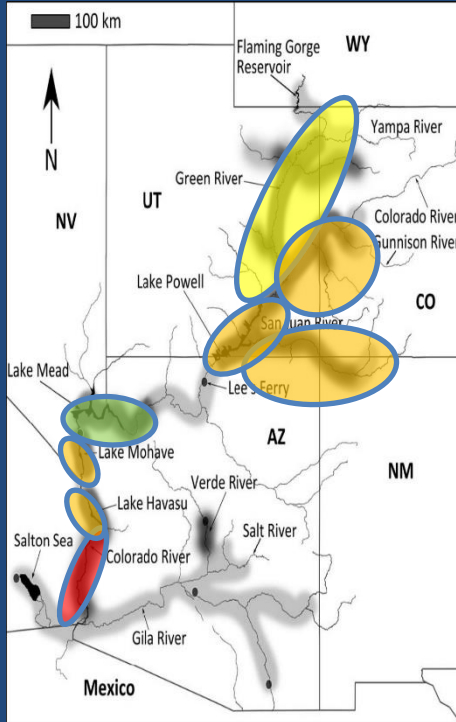
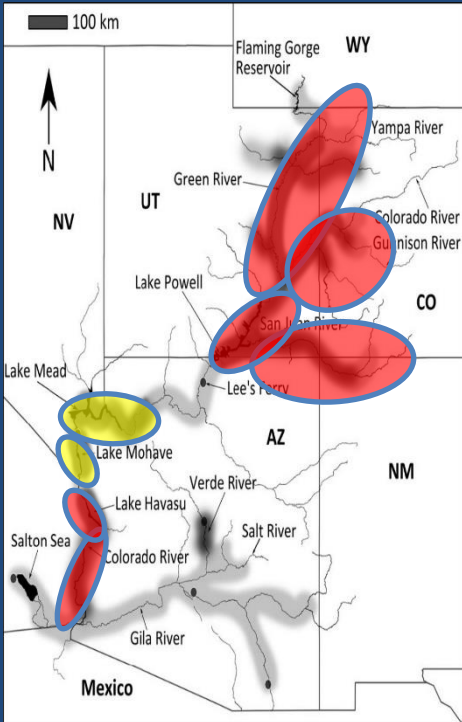
Rated very unlikely in the 30-year period, and unlikely over 100 years.



# Historic

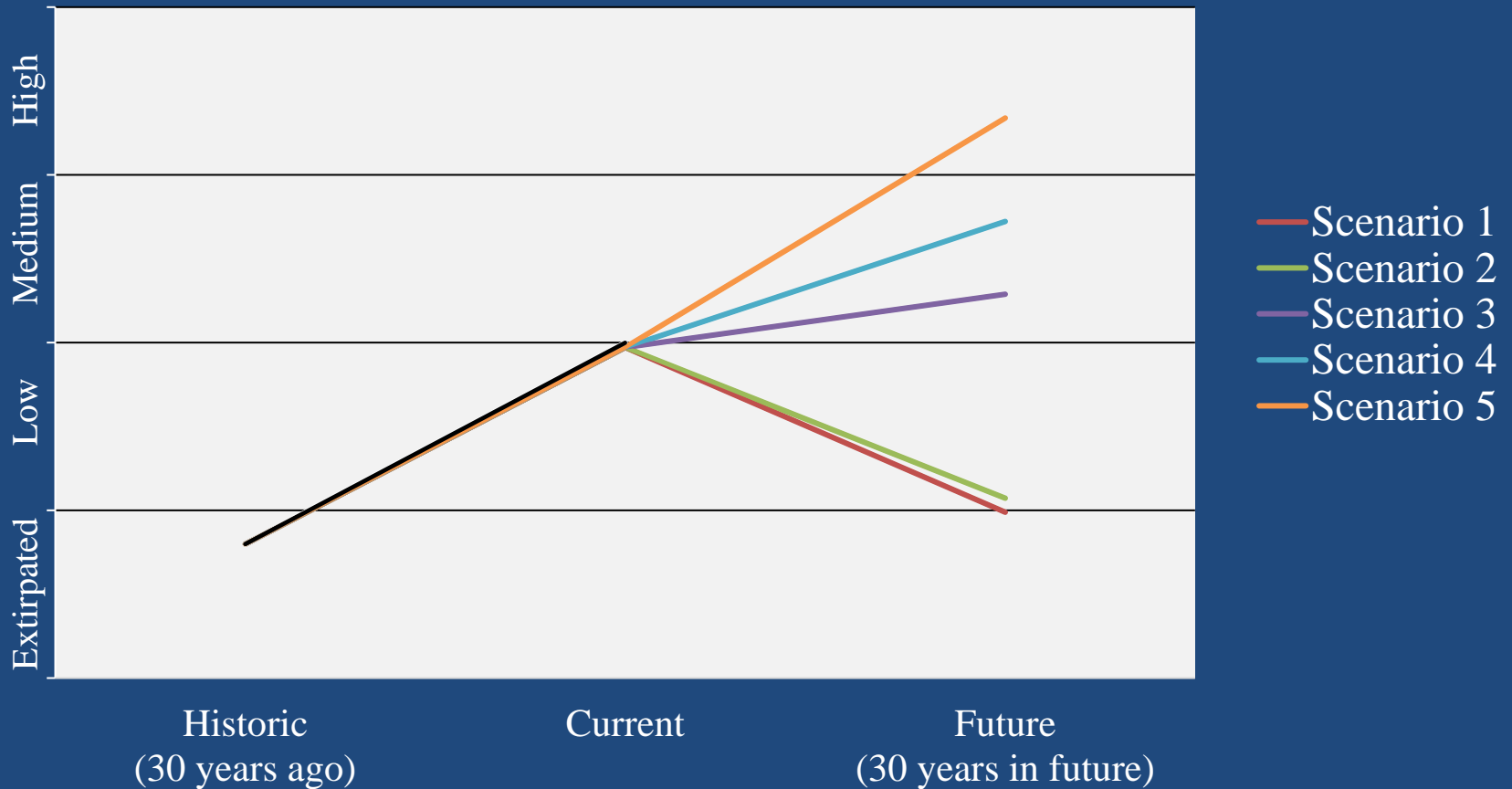
# Current

# F u t u r e s



# Chapter 6 – Future Condition

## Predictions of Future Conditions in All Populations



# 5-year Review

The U.S. Fish and Wildlife Service is required to review the status of each federally listed species every five years.

- ☐ **Endangered Species:** A species in danger of extinction throughout all or a significant portion of its range
- ☐ **Threatened Species:** species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
- ☐ The key statutory difference between a threatened species and an endangered species is the timing of when a species may be in danger of extinction, either now (endangered species) or in the foreseeable future (threatened species).



# Razorback Sucker 5-year Review

- ❑ **Endangered Species:** A species in danger of extinction throughout all or a significant portion of its range (now)

## Razorback Sucker

- 50,000+ hatchery produced adults in 8 population centers;
- Hatchery produced adults are long-lived, occupying habitats in lakes and rivers far from stocking locations;
- Hatchery produced adults are spawning in many locations, however recruitment is extremely rare.
- All populations (w/ exception of Lk Mead) are highly dependent on sustained management (hatchery augmentation, flows, floodplain habitat, nnf control). Species experts felt that sustained management was the most likely future scenario. 3 of 5 future scenarios predict that population resiliency will improve over the next 30 years.
- Therefore, the USFWS concluded that the Razorback Sucker does not meet the definition of an endangered species.



# Next Steps

Regional Director Walsh and the USFWS are committed to follow through on the recommendations

Status change is a federal rulemaking

*Proposed rule* to reclassify razorback sucker as threatened

Receive public comments on proposed rule

Final Rule considers public comments and all information

Reconvene the spp experts (or recovery team) to revise recovery plan

If reclassified, recovery plan would only include de-listing criteria